DESK-SET-INTERCOMS

INSTALLATION AND SERVICE INSTRUCTIONS FOR MODELS
AD-26T, AD-27T, AD-56T, and AD-57T

Address all communications and shipments to:

ATKINSON DYNAMICS
A FEDERAL SIGNAL COMPANY

Electrical Products Division
2645 Federal Signal Drive
University Park, IL 60466-3195
(888) 751-1500

INSTALLATION-AND-SERVICE-INSTRUCTIONS-
FOR-ATKINSON-DYNAMICS-DESK-SET-INTERCOMS

SAFETY MESSAGE TO INSTALLERS,
USERS, AND MAINTENANCE PERSONNEL

It is important to follow all instructions shipped with this product. This device is intended to be installed by a trained electrician who is thoroughly familiar with the National Electrical Code and will follow NEC Guidelines as well as local codes.

The selection of the mounting location for the device, its controls, and the routing of the wiring are to be accomplished under the direction of the facilities engineers and the safety engineer. In addition, listed below are some other important safety instructions and precautions you should follow:

- This is not a listed safety device and is not intended to be used as such.
- Read and understand all instructions before installing or operating this equipment.
- Disconnect power before connecting or doing any maintenance on this intercom.
- All effective warning speakers produce loud sounds which may cause, in certain situations, permanent hearing loss. You should take appropriate precautions, such as wearing hearing protection.
- After testing is complete, provide a copy of this instruction sheet to all operating personnel.
- Establish a procedure to routinely check the intercom installation for integrity and proper operation. Any maintenance must be performed by a trained electrician in accordance with NEC guidelines and local codes.

Failure to follow all safety precautions and instructions may result in property damage, serious injury, or death to you or others.

A. GENERAL FEATURES.

The Atkinson Dynamics “T” model is a telephone style intercom with handset that may be used as a desk set or as a wall mounted unit. Every model has an internal loud speaker with volume control which is always muted during the transmit function to prevent acoustical feedback. The handset on each desk set intercom is equipped with a microphone and soft touch PTT (press-to-talk) button. A red LED on the front panel lights

up when the PTT button is pressed. An externally accessible volume control for the handset earpiece is factory mounted on the back of the case for easy operation. Nominal operating voltages for the desk set intercom include 12VDC, 24VDC, 120VAC, and 240VAC. The desk set intercoms are fully compatible with the Atkinson Dynamics wall mount models.

MODEL:	**AD-26T**	**AD-56T**	**AD-27T**	**AD-57T**
Supply Voltage	12 VDC	24VDC 50/60 Hz	120VAC, 50/60 Hz	240VAC,
Audio Power Output (Max.)	1 Watt	1.4 Watts	1.4 Watts	1.3 Watts
Power Consumption (Max.)	1.6 Watts	4.8 Watts	5 Watts	5 Watts
Operating Current (Nominal)	130 mA	198 mA	42 mA	21 mA
Operating Temperature	-22° F to +167° F (-30° C to +75° C)			
Shipping Weight	4lb. 5oz.	4lb. 6.6oz.	4lb. 15oz.	4lb. 15oz.
Dimensions	See Figure 1			

Table 1

ADDITIONAL MODEL INFORMATION	
Basic Options	**Function / Feature:**
"C"	Master unit
Enhanced Options	
"-6"	Separate talk and listen lines for selective switching
"-M22"	Remote "monitor" on/off toggle switch

Table 2

MASTER UNITS:

"C" Models default to Master, or *speaker* mode. In Master mode, the unit broadcasts audio signals generated elsewhere in the intercom system. With the handset in the cradle, audio is broadcast through a

speaker mounted on the front panel of the desk set. Depressing the PTT (press-to-talk) button on the handset while speaking into the handset microphone enables the user to broadcast to all other intercoms in the system. Releasing the PTT button returns the unit to Master mode. Figure 3 illustrates a Master/Slave intercom system.

SELECTIVE SWITCHING:

"-6" Models are equipped with separate talk and listen lines for selective switching in a Master/Remote intercom system. A Master intercom can select to talk to any one or more remotes through the use of a customer supplied switch box. Figure 4 illustrates a Master/Remote intercom system using a customer supplied switch box and toggle switch.

REMOTE MONITOR SWITCH:

"-M22" Models are Master units equipped with a monitor on/off toggle switch. Figure 5 illustrates an intercom system utilizing this model. When the monitor switch is "on," it allows the remote intercom to serve as a "hands-free" microphone with transmission to the Master. When the monitor switch is "off," the remote intercom must press its talk switch to broadcast to the Master. The remote unit will act as a speaker and broadcast audio only when the PTT button on the Master is depressed.

SURGE PROTECTION:

Metal Oxide Varistor (MOV) devices are used to protect the audio lines. The intercom must have Earth or Chassis Ground terminated to it to ensure surge protection.

B. UNPACKING.

After unpacking the Atkinson Dynamics desk set intercom, examine it for damage that may have occurred in transit. If the equipment has been damaged, do not attempt to install or operate it, and file a claim immediately with the carrier stating the extent of the damage. Carefully check all envelopes, shipping labels and tags before removing or destroying them.

Before attempting to install the intercom, be sure that all parts listed in the KIT CONTENTS LIST have been supplied.

C. KIT CONTENTS LIST.

Qty.	Description	Part Number
1	Instruction Manual	2561571B

D. MOUNTING.

CAUTION

The selection of the mounting location for the device, its controls, and the routing of the wiring are to be accomplished under the direction of the facilities and the safety engineer.

The desk set console may be placed anywhere on a flat surface within six (6) feet of a power source. It may also be reconfigured to hang on a wall or vertical surface. For wall mounting, remove the four (4) screws from the corners which fasten the front PVC panel holder to the back of the case. Carefully lift the front PVC panel holder and rotate it 180 degrees, watching so that the cables inside fit correctly. Reattach the panel with the same screws so that when the unit is secured to the wall, the faceplate will slope outward at the bottom and the handset will be to the left side on the front of the enclosure. Hardware for mounting the intercom to a surface is left up to the installer. Wherever the desk set intercom is mounted, it must be protected from rain or other water penetration that could cause severe damage to the internal circuits. Refer to figures 1 and 6 for dimensions of the desk set intercom and mounting hole locations (wall mount applications), respectively.

E. ELECTRICAL CONNECTIONS.

Plug each desk set intercom into a nearby power source. Connect the audio inputs in parallel. Audio wires should be sized properly by a licensed installation electrician for your specified application. Refer to figures 2 through 5 for typical connections and additional wiring information.

F. SERVICE.

1. GENERAL.

Federal Signal will service your equipment or provide technical assistance with any problems that cannot be handled locally.

Any units returned to Atkinson Dynamics for service, inspection, or repair must be accompanied by a Return Material Authorization. This R.M.A. can be obtained only from the factory by calling (888) 751-1500. At this time a brief explanation of the service requested, or the nature of the malfunction, should be given.

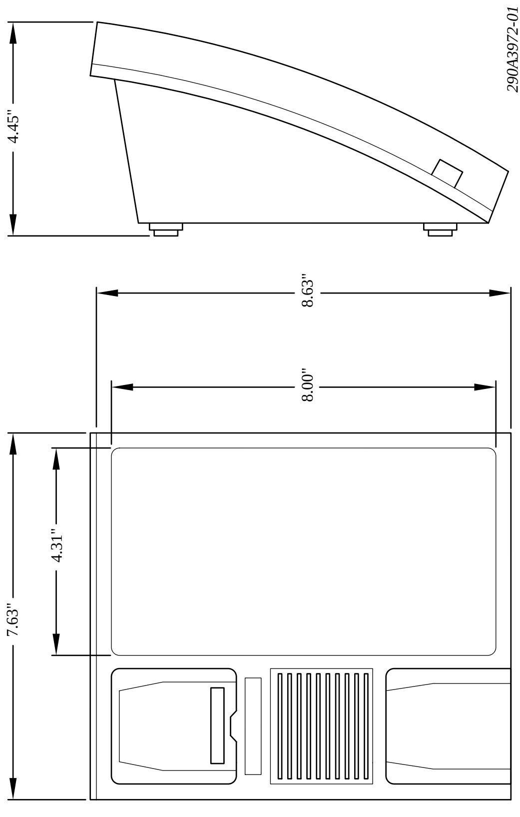
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2. REPLACEMENT PARTS.

DESCRIPTION	PART NUMBER
Fuse, 1A (12/24VDC Models)	K148A155A-01
Fuse, 1/2A (120/240VAC Models)	K148A155A
Handset Assy., Black	K8590283A
PCBA for Models:	
AD-27T	K2001910A
AD-26T	K2001910A-02
AD-57T	K2001910A-01
AD-56T	K2001910A-03
AD-27T-6	K2001910A-6
AD-57T-6	K2001910A-01-6
AD-26T-6	K2001910A-02-6
AD-27CT	K2001910A-CT
AD-26CT	K2001910A-02-CT
AD-27CT-M22	K2001910A-CT-M22

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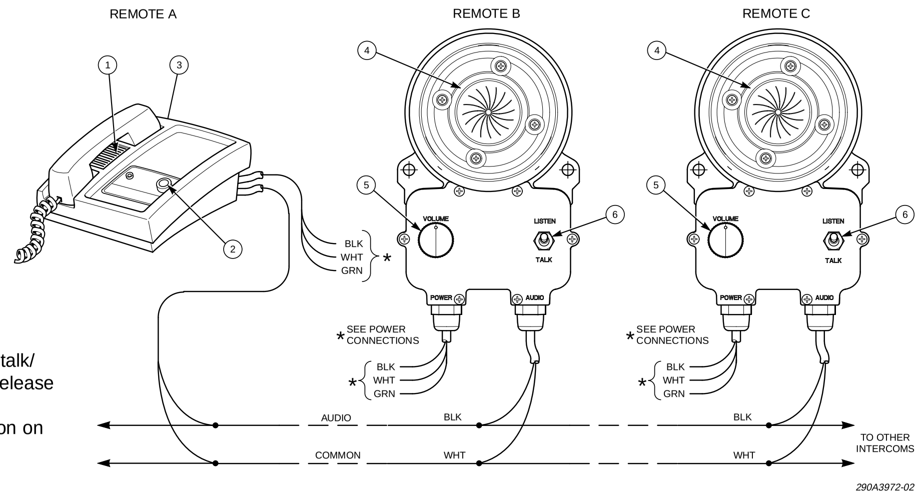
POWER	REMOTE-A	REMOTES B-&-C
12VDC	AD-26T	AD-26
120V 50/60Hz	AD-27T	AD-27
244VDC	AD-56T	AD-56
240V 50/60Hz	AD-57T	AD-57

POWER CONNECTIONS:

BLK	+DC-POWER	12/24V Models
	HOT	120/240V Models
WHT	Common	12/24V Models
	Neutral	120/240V Models
GRN	Earth Ground	120/240V Models only

NOTES:
1. Desk Set speaker (microphone is mounted on handset)
2. Desk Set speaker volume control
3. Handset earpiece volume control (mounted on back of case)
4. Speaker/Microphone
5. Off/On/Speaker volume control
6. Talk/Listen switch

Operating Principle:
1. When one intercom talks, all of the intercoms will hear.
2. For Remotes B or C to talk to other stations, press the talk/ listen switch and speak into the speaker/microphone. Release talk switch to listen.
3. For Remote A to talk to other stations, press PTT-button on handset and talk into handset microphone.



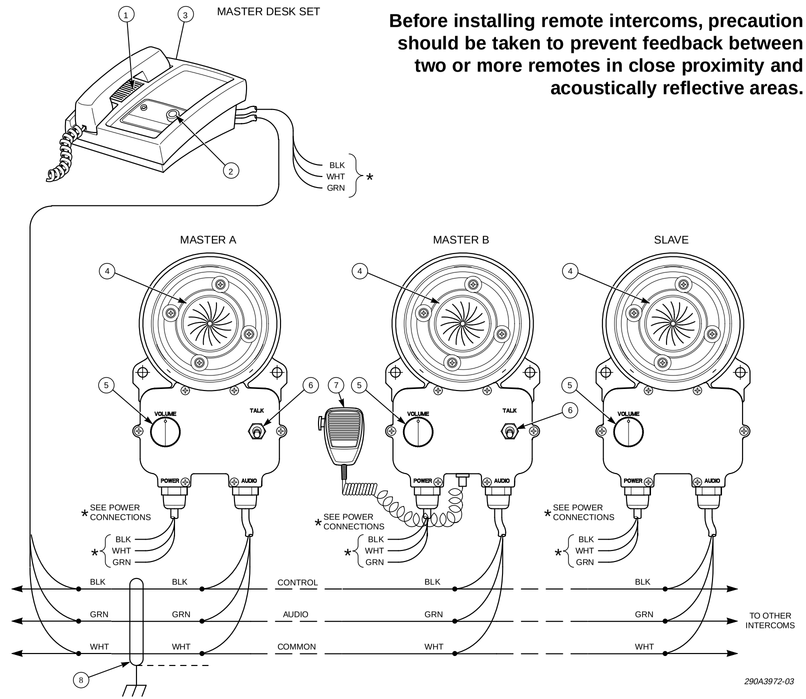
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POWER CONNECTIONS:

BLK	+DC-POWER	12/24V Models
	HOT	120/240V Models
WHT	Common	12/24V Models
	Neutral	120/240V Models
GRN	Earth Ground	120/240V Models only

POWER	**DESK SET MASTER**	**MASTER A**	**MASTER B**	**SLAVE**
12VDC	AD-26CT	AD-26C	AD-26C-7	AD-26D
120V 50/60Hz	AD-27CT	AD-27C	AD-27C-7	AD-27D

Before installing remote intercoms, precaution should be taken to prevent feedback between two or more remotes in close proximity and acoustically reflective areas.



NOTES:
1. Desk Set speaker (microphone is mounted on handset)
2. Desk Set speaker volume control
3. Handset earpiece volume control (mounted on back of case)
4. Speaker/Microphone
5. Off/On/Speaker volume control
6. Talk Switch
7. #137144 hand-held, noise cancelling microphone
8. 3-conductor/16-22 gauge cable. Use shielded cable in electrically noisy areas. Ground one end of the shield. Do not connect shield to chassis of AC-powered intercom.

Operating Principle:
1. Master normally listens to Slave (Slave in hands-free mode).
2. When any Master presses talk button, Slave listens.
3. When there is more than one Slave, Slaves will transmit to Master(s) at the same time.

POWER CONNECTIONS:

BLK	+DC-POWER	12/24V Models
	HOT	120/240V Models
WHT	Common	12/24V Models
	Neutral	120/240V Models

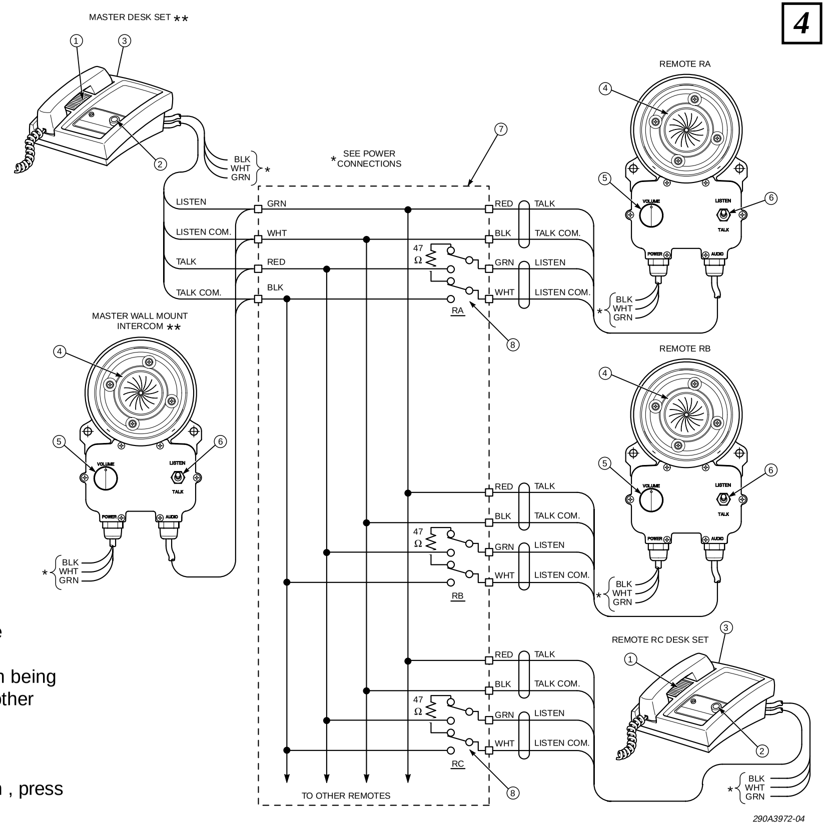
POWER	**REMOTES-RA-&-RB***	**REMOTE-RC***
12VDC	AD-26-6	AD-26T-6
120V 50/60Hz	AD-27-6	AD-27T-6
240V 50/60Hz	AD-57-6	AD-57T-6

** Refer to remote model number as an example for Master.

NOTES:
1. Desk Set speaker (microphone is mounted on handset)
2. Desk Set speaker volume control
3. Handset earpiece volume control (mounted on back of case)
4. Speaker/Microphone
5/ Off/On/Speaker volume control
6. Talk/Listen switch
7. Master switch box — customer supplied

Operating Principle:
1. Master can select (via master switch box) to talk to any one or more remotes.
2. Any remote can initiate a call to Master regardless of selector switch being on or off. Remote must specify its location. Remotes cannot talk to other remotes.
3. To talk into intercom, press talk switch and speak into speaker/ microphone.-Release talk switch to listen.
4. For Master to talk to remote, select desired remote via selector switch , press talk switch on handset microphone and talk into handset microphone.

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OPERATING-PRINCIPLE:
1. When monitor switch is "ON", Master normally listens to Slave. (Slave is hands-free.)
2. Master must press Talk switch to talk to Slave.
3. When Monitor switch is "OFF", Slave must press Talk switch to talk to Master.

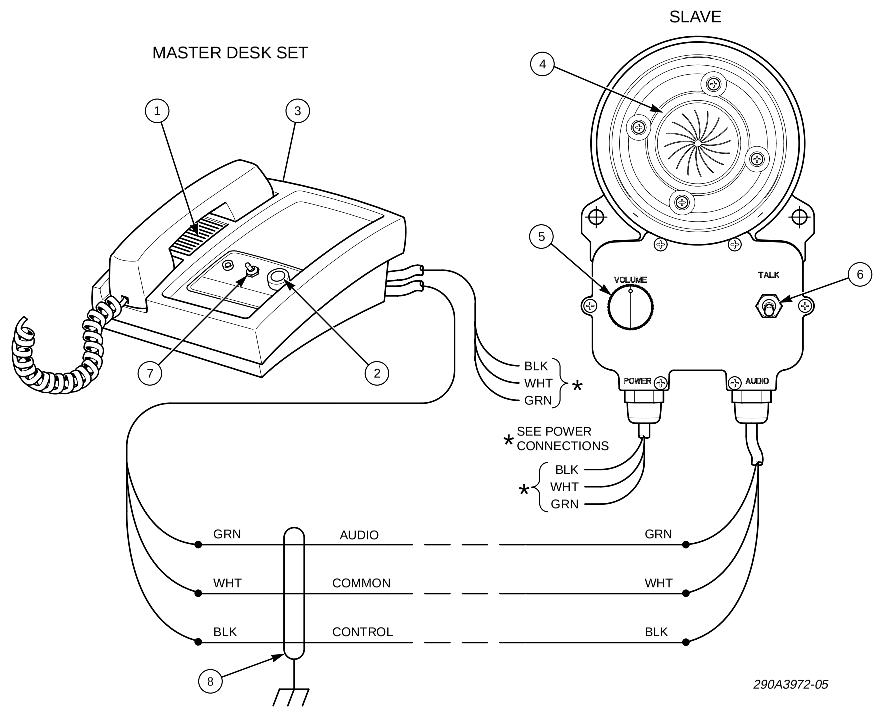
NOTES:
1. Desk Set speaker (microphone is mounted on handset)
2. Desk Set speaker volume control
3. Handset earpiece volume control (mounted on back of case)
4. Speaker/Microphone
5. Off/On/Speaker volume control
6. Talk switch
7. Monitor on/off switch
8. Use shielded cable in electrically noisy area. Ground one end of shield. Do not connect shield to chassis of AC-powered intercom.

Power Connections:

BLK	HOT	120/240V Models
WHT	Neutral	120/240V Models
GRN	Earth Ground	120/240V Models only

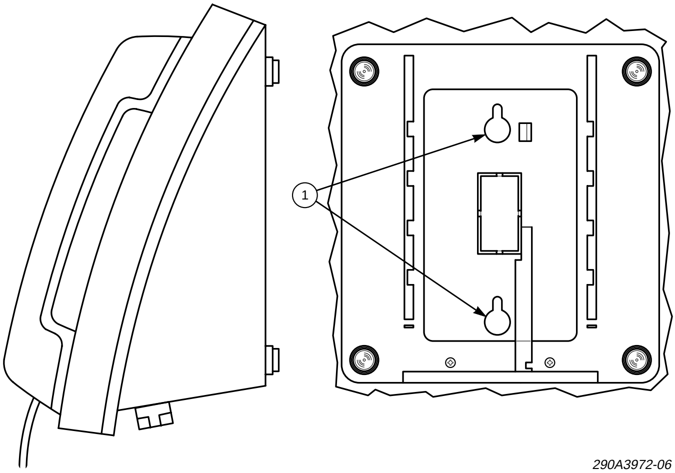
*Having more than one Master is not recommended for this system.

Power	**Master**	**Slave**
120V 50/60Hz	AD-27CT-M22	AD-27-2W3



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WALL-MOUNTING-CONFIGURATION



NOTES:

1. Two mounting slots provided for surface mount installations: slot will accept a #10 screw (supplied by installer)

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